Please cancel Claims 1-12.

Please add the following claims.

13. An isolated DNA encoding a raffinose synthase having the following properties:

(1) action and substrate specificity: the raffinose synthase produces raffinose from sucrose and galactinol;

(2) optimum pH: the raffinose synthase has an optimum pH of about 6 to 8;

(3) optimum temperature: the raffinose synthase has an optimum temperature of about 35 to 40°C;

(4) molecular weight: the raffinose synthase has:

(i) a molecular weight of about 75 kDa to 95 kDa estimated by gel filtration chromatography;

(ii) a molecular weight of about 90 kDa to 100 kDa estimated by polyacrylamide gel electrophoresis; and

(iii) a molecular weight of about 90 kDa to 100 kDa estimated by SDS-polyacrylamide gel electrophoresis under a reduced condition; and

(5) inhibition: the raffinose synthase is inhibited by iodoacetamide, N-ethylmaleimide, and myo-inositol.

14. The DNA of Claim 13, which wherein the raffinose synthase comprises an amino acid sequence shown in SEQ ID NO: 1, 2 or 3.

15. An isolated DNA encoding a raffinose synthase, wherein the DNA is hybridizable under stringent conditions to a DNA comprising nucleotide numbers 56 to 2407 of SEQ ID NO: 4.

16. The DNA of Claim 15, wherein the stringent conditions are 0.1 x SSC, 0.1% SDS at 60°C.

17. An isolated DNA encoding a raffinose synthase having a homology of not less than 35% with respect to the raffinose synthase shown in SEQ ID NO: 5.

18. The DNA of Claim 17, wherein the raffinose synthase has a homology of not less than 40% with respect to the raffinose synthase shown in SEQ ID NO: 5.

19. The DNA of Claim 17, wherein the raffinose synthase has a homology of 65% in the region between the 510th and 610th amino acid of SEQ ID NO: 5.

20. An isolated DNA encoding a raffinose synthase, wherein the DNA has a homology of not less than about 50% with respect to the nucleotide sequence of SEQ ID NO: 4.

21. An isolated DNA encoding a raffinose synthase, wherein the DNA has a homology of not less than about 65% with respect to a region comprising about 300 nucleotide residues in the nucleotide sequence of SEQ ID NO: 4.

22. An isolated DNA encoding a raffinose synthase, wherein the DNA is obtained from a dicotyledonous plant.

23. The DNA of Claim 22, wherein the dicotyledonous plant is a *Cucurbitaceae Leguminosae* or plant

24. The DNA of Claim 22, wherein the dicotyledonous plant is a *Cucurbitaceae* plant.

25. The DNA of Claim 24, wherein the *Cucurbitaceae* plant is a melon or a cucumber.

26. The DNA of Claim 24, wherein the *Cucurbitaceae* plant is *Cucumis melo* or *Cucumis sativus*.

27. An isolated DNA encoding a raffinose synthase, wherein the DNA is obtained by a process comprising screening a cDNA library isolated from cucumber by hydridization with an oligonucleotide probe, wherein the oligonucleotide probe encodes a partial amino acid sequence of SEQ ID NO: 5.

28. The DNA of Claim 15, wherein the raffinose synthase has a homology of not less than 35% with respect to the raffinose synthase shown in SEQ ID NO: 5.

29. The DNA of Claim 15, wherein the raffinose synthase has a homology of not less than 40% with respect to the raffinose synthase shown in SEQ ID NO: 5.

30. The DNA of Claim 15, wherein the raffinose synthase has a homology of not less than 65% in the region between the 510th and 610th amino acid of SEQ ID NO: 5.

31. The DNA of Claim 13, wherein the DNA is hybridizable under stringent conditions to a DNA comprising nucleotide numbers 56 to 2407 of SEQ ID NO: 4.

32. The DNA of Claim 13, wherein the stringent conditions are 1 x SSC, 0.1% SDS at 60°C.

33. The DNA of Claim 13, wherein the stringent conditions are 0.1 x SSC, 0.1% SDS at 60°C.

34. The DNA of Claim 13, wherein the raffinose synthase has a homology of not less than 35% with respect to the raffinose synthase shown in SEQ ID NO: 5.

35. The DNA of Claim 13, wherein the raffinose synthase has a homology of not less than 40% with respect to the raffinose synthase shown in SEQ ID NO: 5.